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10/575,783	05/12/2006	Takashi Uchida	2006_0510A	3571
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EXAMINER				
LACLAIR, DARCY D				
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1796				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/575,783

**Applicant(s)**

UCHIDA ET AL.

**Examiner**

Darcy D. LaClair

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **9/29/2008**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Upon reconsideration of the claims and an updated search, new grounds of rejection are set forth below which were are not necessitated by applicant's amendment. Thus, a *2nd non-final Office action is set forth as follows*.

### ***Double Patenting***

#### **Double Patenting, I**

2. **Claims 1-21** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **Claims 1-11 of U.S. Patent No. 6,979,493**.

The rejection with regard to **Claims 1-4 and 7** is adequately set forth in **paragraphs 2-3** of the office action mailed **5/28/08**, and is incorporated here by reference. Additionally, the rejection of these claims is restated in combination with the rejection of **Claims 5-6, 8-14**, and **New Claims 15-21**.

**With regard to Claim 1, 6 and 15**, the conflicting patent claims an aqueous dispersion comprising a bas barrier polyurethane resin having urea and urethane groups in a concentration of 30 to 42.9% by weight, where the urethane comprises a diisocyanate selected from aromatic, araliphatic, and alicyclic diisocyanates, a C<sub>2</sub>-C<sub>8</sub> diol or alkylene diol, and a diamine having 8 or less carbon atoms (Claim 1-3) and 0.1 to

50 parts by weight of a layered inorganic compound (Claim 6,7) which is water swellable (Claim 8). While the conflicting patent does not claim a polyhydroxyalkanecarboxylic acid explicitly, this is encompassed by the claimed diol. The specification teaches that in order to prepare an aqueous dispersion, a hydrophilic group may be introduced to the prepolymer used to generate the urethane through a reaction of an isocyanate with a hydrophilic compound as at least a part of the diol or diamine component, dispersing the resultant polyurethane in solvent, and extending the chain using a diamine as a chain extending agent. (col 5 line 64- col 6 line18) As the hydrophilic compound, dihydroxycarboxylic acids, dihydroxy C4-C10 polycarboxylic acids, and dihydroxy aromatic carboxylic acids may be used. (col 6 line 15-30) These carboxylic acids meet the limitation (B) requiring polyhydroxyalkanecarboxylic acids. Furthermore, Uchida exemplifies dimethylol propionic acid (see Production Example 8, 9) which is consistent with this requirement. Production Examples 8 and 9 indicate that the isocyanate and polyhydroxyalkane carboxylic acid are mixed together, neutralized, and then chain extended. (See Col 13-14) Note MPEP 804: "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

Further, the conflicting patent teaches that the polyurethane resin can be obtained by a urethanizing reaction of a diisocyanate, a diol component, and a diamine component. (col 3 line 23-28) The conflicting patent also teaches a neutralizer (see col

6 line 58-67) It would be obvious to one of ordinary skill in the art to chain extend the polyurethane prepolymer before neutralizing. Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re *Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re *Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

With regard to the portion of the acid group of the polyurethane resin relative to the basic nitrogen atom of the polyamine compound, Uchida fails to specifically teach an acid or amine value for the constituents presented, however Uchida exemplifies 3-[N-(2-aminoethyl)amino] propylmethyldimethoxysilane (see Production Example 10), which is consistent with the gamma-(2-aminoethyl)amino propylmethyldimethoxysilane exemplified by applicant, having an amine value of 544 mg KOH/g (see applicant's specification p. 31 line 25-26). See the structures, below, in paragraph 5. Production Example 9, a 25% by weight polyurethane resin, which is used with this compound in Production Example 10, uses hydrogenated XDI, dimethylol propionic acid) and ethylene glycol in similar concentrations and ratios as Production Example 1 and 3, (see applicant's specification p. 28 and 29-30) as well as a solvent and triethylamine as a neutralizer. Furthermore, Production example 10 uses these in a mixture of 500 g to 6

g (or 100:1.2 parts) (see col 15 line 5 - 14), and applicant uses these in a ratio of 100 parts of 25% by weight polyurethane solution to 1.24 parts of AEAPS. (See Applicant's Table 1) This is substantially the same chemical compounds being combined in substantially the same ratio, and would therefore fall within applicant's claimed range for the acid and amine value for the respective compounds, as well as for the ratio of the acid group of the polyurethane resin to the basic nitrogen atom of the polyamine compound. See MPEP 2112.01 "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)

**With regard to Claims 2-3 and 16-17**, the conflicting patent claims a diisocyanate selected from aromatic diisocyanate, an araliphatic diisocyanate, and an alicyclic diisocyanate, a  $C_{2-8}$  diol, and a diamine having 8 or less carbon atoms (Claim 1) With regard to the isocyanate, the claim would necessitate 100% of the types of isocyanate, and the diol required by applicant. With regard to the chain extension agent, or diamine component, applicant has taught diamines such as hydrazine, aliphatic diamines, aromatic amines, and alicyclic amines, as well as diamines having a hydroxyl group such as 2-hydrazinoethanol. (See col 4 line 54-67)

**With regard to Claims 4 and 18**, the conflicting patent claims xylene diisocyanate and hydrogenated XDI (Claim 4)

**With regard to Claims 5 and 19**, the conflicting patent claims a layered inorganic compounds (Claim 6,7) which is water-swellaable (Claim 8).

**With regard to Claims 7 and 20**, the conflicting patent claims 0.1 to 50 parts of inorganic compound to 100 parts of the polyurethane resin (or 1/100 to 50/100). (Claim 7) This covers a large portion of the very broad range indicated by applicant.

**With regard to Claims 8-14 and 21**, the conflicting patent claims a gas barrier composite film composed of a base film layer and a resin layer at least comprising the polyurethane resin, and that the polyurethane resin may be used as a single-layered filmy article or a multi-layered article constructed of a base and layer(s) formed thereon. (Claims 9-11)

Double Patenting, II

3. **Claims 1-21** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **Claims 1-11 of U.S. Patent No. 6,569,533**.

Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications claim substantially similar polyurethane resins (copending Claim 1-3) having a diisocyanate and a diol component comprising a C2-8 alkylene glycol. (Claim 4) The polyurethane has a member selected from a xylene diisocyanate and a hydrogenated xylene diisocyanate (Claim 5) and a water swellaable layered inorganic compound in 0.1 to 50 parts by weight (Claims 6-8). The copending application also claims a gas barrier composite film. (Claims 9-11). See the arguments set forth below in **paragraph 5**.

4. **Claims 1-21** directed to an invention not patentably distinct from **Claims 1-11** of commonly assigned **U.S. Patent No. 6,569,533**. Specifically, see the discussion set forth above, in **paragraph 3**.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned **U.S. Patent No. 6,569,533**, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Uchida et al. (US 6,569,533)**.

It is noted that **Claims 1, 3, 15 and 17**, with respect to the polyurethane resin, are stated in product by process format.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

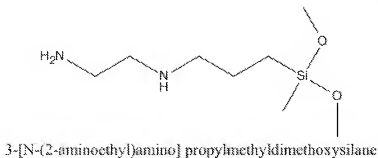
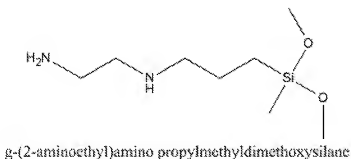
Absent showing of criticality, the process limitations in a product-by-process claim do not carry patentable weight.

**With regard to Claim 1 and 15**, Uchida teaches an aqueous (col 5 line 35) polyurethane resin having a total concentration of the urethane group and the urea group of not less than 15% by weight, (see col 2 line 50-51) preferably about 20% by weight, and more preferably about 35% to 60% by weight. (see col 7 line 19-27), a layered inorganic compound, (see col 3 line 1-2) and a diamine component. (see col 3 line 21) This completely covers applicant's stated range with regard to the content of urethane and urea groups, and indicates that the preferable range directly overlaps applicant's range. Uchida teaches that a polyamine can be used together with the diamine component. (See col 5 line 4-6)

With regard to the polyurethane resin obtained by a reacting (A) a polyisocyanate compound (B) a polyhydroxyalkane carboxylic acid, (D) a chain extension agent, and neutralizing the resultant product with a neutralizing agent, Uchida teaches that the polyurethane resin can be obtained by a urethanizing reaction of a diisocyanate, a diol component, and a diamine component. (col 3 line 18-21) Uchida further teaches that in order to prepare an aqueous dispersion, a hydrophilic group may be introduced to the prepolymer used to generate the urethane through a reaction of an isocyanate with a hydrophilic compound as at least a part of the diol or diamine component, dispersing the resultant polyurethane in water, and extending the chain using a diamine as a chain extending agent. (col 5 line 60-67) As the hydrophilic compound, dihydroxycarboxylic acids, dihydroxy C4-C10 polycarboxylic acids, and dihydroxy aromatic carboxylic acids may be used. (col 6 line 15-30) These carboxylic acids meet the limitation (B) requiring polyhydroxyalkanecarboxylic acids. Furthermore, Uchida exemplifies dimethylol propionic acid (see Production Example 8, 9) which is consistent with this requirement. Production Examples 8 and 9 indicate that the isocyanate and polyhydroxyalkane carboxylic acid are mixed together, neutralized, and then chain extended. (See Col 13-14) It would be obvious to one of ordinary skill in the art to chain extend the polyurethane prepolymer before neutralizing. Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process

steps.). See also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

With regard to the portion of the acid group of the polyurethane resin relative to the basic nitrogen atom of the polyamine compound, Uchida fails to specifically teach an acid or amine value for the constituents presented, however Uchida exemplifies 3-[N-(2-aminoethyl)amino] propylmethyldimethoxysilane (see Production Example 10), which is consistent with the gamma-(2-aminoethyl)amino propylmethyldimethoxysilane exemplified by applicant, having an amine value of 544 mg KOH/g (see applicant's specification p. 31 line 25-26). See the structures, below, prepared using ChemDraw Ultra:



Production Example 9, a 25% by weight polyurethane resin, which is used with this compound in Production Example 10, uses hydrogenated XDI, dimethylol propionic acid) and ethylene glycol in similar concentrations and ratios as Production Example 1 and 3, (see applicant's specification p. 28 and 29-30) as well as a solvent and triethylamine as a neutralizer. Furthermore, Production example 10 uses these in a mixture of 500 g to 6 g (or 100:1.2 parts) (see col 14 line 52 - 54), and applicant uses these in a ratio of 100 parts of 25% by weight polyurethane solution to 1.24 parts of AEAPS. (See Applicant's Table 1) This is substantially the same chemical compounds being combined in substantially the same ratio, and would therefore fall within applicant's claimed range for the acid and amine value for the respective compounds, as well as for the ratio of the acid group of the polyurethane resin to the basic nitrogen atom of the polyamine compound. See MPEP 2112.01 "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)

**With regard to Claims 2 and 16**, Uchida teaches aromatic diisocyanates, araliphatic diisocyanates, alicyclic diisocyanates, and aliphatic diisocyanates for the diisocyanate component. (See col 3, line 23-25 and col 3-4 inclusive) Uchida teaches that a diamine component may be used as a chain extending agent, and examples of the diamine are hydrazine, aliphatic diamines, aromatic amines, and alicyclic amines, as

well as diamines having a hydroxyl group such as 2-hydrazinoethanol. (See col 4 line 48-62)

**With regard to Claims 3 and 17**, Uchida indicates that in view of gas barrier properties, aromatic diisocyanates, araliphatic diisocyanates, and alicyclic diisocyanates are preferable, with aromatic diisocyanates, araliphatic diisocyanates, and alicyclic diisocyanates particularly preferred. (See col 3 line 57-63) This would lead one of ordinary skill in the art to selectively use these compounds. Furthermore, Uchida exemplifies the polyisocyanate compound as 100% 1,3-xylylene diisocyanate, (PE 1, 7), 4,4'-diphenylmethane diisocyanate (PE 2), 2,4-tolylene diisocyanate, (PE 3, 4), a mix of 2,4-tolylene diisocyanate and 2,6-tolylene diisocyanate (PE 5), isophorone diisocyanate (PE 6), and 1,4-bis(isocyanatemethyl) cyclohexane (PE 8,9,11). This meets the limitation with regard to the content of a cyclic isocyanate. Uchida teaches that in view of gas barrier properties, a low molecular diol such as a C<sub>2-8</sub> diol is used, and a C<sub>2-6</sub> diol is preferably employed. This would lead one of ordinary skill in the art to select these compounds preferentially. Furthermore, Uchida exemplifies 1,4-butanediol (PE 1), ethylene glycol (PE 2,6,8,9), diethylene glycol (PE 3,11), 1,6-hexanediol (PE 4), 3-methyl-1,5-pentanediol (PE 5) triethylene glycol (PE 7), and dimethylol propionic acid (PE 8,9) used in 100% content in the urethane, meeting the requirement with respect to the diol compound. With respect to the chain extending agent, see the discussion of claims 2 and 16, above.

**With regard to Claims 4 and 18**, Uchida teaches xylene diisocyanate and hydrogenated XDI (see col 3 line 54-55) and exemplifies 1,3-xylylene diisocyanate. (See PE 1, 7).

**With regard to Claims 5 and 19**, Uchida teaches layered inorganic compounds such as swellable micas, and preferably montmorillonite and smectite-series clay minerals. (See col 9, line 55-65) Montmorillonite and smectite clays are swellable clays.

**With regard to Claim 6**, see the discussion of Claims 1 and 15, above, with regard to the portion of the acid group of the polyurethane resin relative to the basic nitrogen atom of the polyamine compound.

**With regard to Claims 7 and 20**, Uchida teaches 0.1 to 50 parts of inorganic compound to 100 parts of the polyurethane resin (or 1/100 to 50/100). (See col 10 line 1-4) This covers a large portion of the very broad range indicated by applicant.

**With regard to Claims 8-14 and 21**, Uchida teaches a gas barrier composite film composed of a base film layer and a resin layer at least comprising the polyurethane resin. (See abs) Uchida further teaches that the polyurethane resin may be used as a single-layered filmy article or a multi-layered article constructed of a base and layer(s) formed thereon. (See col 10 line 20-26)

### ***Response to Arguments***

6. Applicant's arguments filed **9/29/2008** have been fully considered. Specifically, applicant argues **(A)** Claims 1-4 and 6 have been amended and new Claims 15-21 have been added; the amendments incorporate matter concerning the manner in which the

polyurethane resin is obtained, and incorporate subject matter concerning the portion of the acid group of the polyurethane relative to the basic nitrogen atom of the polyamine, and notes the support for these amendments in the specification, **(B)** In the present invention, it is important that the polyurethane resin is obtained by **reacting** a polyisocyanate compound, a polyhydroxyalkane carboxylic acid and **a chain-extension agent** and **neutralizing** the resultant product; Uchida et al. discloses a diamine component which is a chain-extension agent or crosslinking agent and is reacted with an isocyanate group of a urethane prepolymer and introduced into the molecular structure of the polyurethane resin, and thus does not substantially contain a free diamine component; furthermore, the polyurethane resin of Uchida is neutralized and combined with an inorganic layered compound only, rather than with a diamine component, thus the specific ratio of the acid group of the polyurethane resin relative to the basic nitrogen atom in free form can not be reached; the invention of Uchida is therefore clearly distinct from the present invention; Finally, unexpected results are observed in the present invention: Comparative Examples 1 and 2 in the present application correspond to the resultant combination of the Uchida reference, and **(C)** The obviousness type double patenting rejection of claims 1-4 and 7 over claims 1-7 of US 6,979,493 is traversed on the grounds that the conflicting patent claims an aqueous dispersion comprising a gas barrier polyurethane where the polyurethane comprises a plurality of urea groups and a plurality of urethane groups, for a total concentration of 30 to 42.9% by weight of the total polyurethane resin, which comprises a diisocyanate and a diamine and a glass transition temperature of 100°C or higher, and a member

selected from a silane coupling agent and a layered inorganic compound; these claims are distinct over the presently claimed invention for the same reasons indicated for the Uchida reference discussed above in (B).

**With respect to arguments (A)**, applicant's amendments have been reviewed, and support for the amendments is noted in paragraphs [0019], [0022], [0039], [0054], and [0060].

**With respect to argument (B)**, applicant's arguments have been considered, but are moot in view of the new ground(s) of rejection set forth above.

**With respect to arguments (C)**, applicant's arguments have been considered, but are *not* persuasive. Applicant appears to argue that Comparative Examples 1 and 2 of the present application demonstrate unexpected results from by reacting a polyisocyanate compound, a polyhydroxyalkane carboxylic acid and a chain-extension agent where the chain extending agent is a diamine, and neutralizing the resultant product in comparison to a teaching where the chain extension is performed after neutralization. Contrary to this apparent assertion, Comparative Examples 1 and 2 demonstrate a film obtained without adding a polyamine compound. **With regard to amended Claim 1**, absent a showing of criticality, the process limitations in a product-by-process claim do not carry patentable weight, and this comparison has not demonstrated criticality of the process. With regard to the polyurethane resin, the conflicting patent claims a polyurethane resin comprising 30 to 42.9% urea and urethane groups, which is within applicant's claimed range, a diisocyanate, and a diamine. Production Example 9, a 25% by weight polyurethane resin, which is used with this compound in Production Example 10, uses



hydrogenated XDI, dimethylol propionic acid) and ethylene glycol (see col 14 line 45- col 15 line 13) in similar concentrations and ratios as Production Example 1 and 3, (see applicant's specification p. 28 and 29-30) as well as a solvent and triethylamine as a neutralizer. Furthermore, Production example 10 uses these in a mixture of 500 g to 6 g (or 100:1.2 parts), (see col 15 lines 5-13) and applicant uses these in a ratio of 100 parts of 25% by weight polyurethane solution to 1.24 parts of AEAPS. (See Applicant's Table 1) This is substantially the same chemical compounds being combined in substantially the same ratio. Note MPEP 804: "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair  
Examiner  
Art Unit 1796

/DDL/

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796